

REMARKS

In the present Amendment, Applicant has amended claim 17 to more appropriately define the invention. No new matter has been added. Upon entry of the amendment, claims 1, 3-9, and 17-19 remain pending.

In the Office Action, the Examiner rejected claims 17 and 18 under 35 U.S.C. § 102(b) as being anticipated by Satoh (U.S. Patent No. 6,435,798); rejected claims 1, 3-6, 9, and 19 under 35 U.S.C. § 103(a) as being unpatentable over Tepman (U. S. Patent No. 5,951,775) in view of Satoh; and rejected claims 7 and 8 under 35 U.S.C. § 103(a) as being unpatentable over Tepman in view of Satoh, and further in view of Morita et al. (U. S. Patent No. 5,815,366). Applicant respectfully traverses these rejections for the following reasons.

Applicant first respectfully traverses the rejection of claims 17 and 18 under 35 U.S.C. § 102(b).

In order to properly anticipate Applicants' claimed invention under 35 U.S.C. §102, each and every element of the claim in issue must be found, "either expressly or inherently described, in a single prior art reference." "The identical invention must be shown in as complete detail as is contained in the . . . claim. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989)." See M.P.E.P. § 2131, 8th ed., 2001.

The present application is in general related to an electrostatic chuck system. Particularly, claim 17 recites, among other things, "[a] method of maintaining a lift structure of a chuck system that supports a semiconductor wafer, comprising: providing

a removable first lift pin to a lift base in the lift structure, wherein a first end of the first lift pin is threaded and the lift base has a threaded hole for receiving the first end of the first lift pin; [and] removing the first lift pin from the lift base with the lift structure being coupled to the chuck system.” Satoh fails to teach at least these elements.

In contrast, Satoh discloses a semiconductor processing apparatus for processing a semiconductor substrate, which comprises “a susceptor 2 . . . , a pin 11, one end of which is inserted into the inner part of the substrate-supporting member 12, and a pin-fixing structure (9, 10) provided at the base of the chamber 11 for fixing the other end of the pin 11.” Satoh, col. 6, lines 20-31, and Fig. 1. Further, referring to Figs. 8, 9A, and 9B, “[t]he fixed base member 9 comprises . . . at least three blades 31. . . . Around the end of each blade, a threaded hole 32 is provided to receive a pin holder 10. The pin holder 10 comprises a fine cavity 28 for receiving the pin 11 and a screw member 29 threaded to screw in a hole 32.” Satoh, col. 8, lines 40-48.

In the Office Action, the Examiner appears to consider that Satoh’s pin 11 corresponds to Applicant’s claimed “removable first pin.” However, Applicant notes that Satoh’s pin 11 is not threaded, and is only inserted into the “fine cavity 28” of the pin holder 10. Moreover, the part that receives pin 11 is the “fine cavity 28” of the pin holder 10, which does not have a “threaded hole,” as recited in claim 17. In other words, Satoh fails to teach at least “providing a removable first lift pin to a lift base in the lift structure, wherein a first end of the first lift pin is threaded and the lift base has a threaded hole for receiving the first end of the first lift pin,” as recited in claim 17. Because Satoh fails to teach at least “a removable first pin,” it also fails to teach at least

"removing the first lift pin from the lift base with the lift structure being coupled to the chuck system," as recited in claim 17.

Therefore, claim 17 is not anticipated by Satoh, and claim 18, which depends from claim 17, is also patentable over Satoh, at least because of its dependency from an allowable base claim.

Applicant also traverses the rejection of claims 1, 3-6, 9, and 19 under 35 U.S.C. § 103(a) as being unpatentable over Tepman in view of Satoh, because a *prima facie* case of obviousness has not been established by the Examiner.

To establish a *prima facie* case of obviousness under 35 U.S.C. §103(a), each of three requirements must be met. First, the reference or references, taken alone or combined, must teach or suggest each and every element recited in the claims. Second, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the references in a manner resulting in the claimed invention. Third, a reasonable expectation of success must exist. Moreover, each of the three requirements must "be found in the prior art, and not be based on applicant's disclosure." See M.P.E.P. §2143, 8th ed., February 2003.

Claim 1 of the present invention recites, *inter alia*, "a lift base, and at least one lift pin removably coupled with the lift base, the lift pin having two ends with a first end removably coupled to the lift base and a second end for supporting the semiconductor wafer during lifting operation of the lift structure, wherein the first end of the lift pin is threaded and the lift base has a threaded hole for receiving the first end of the lift pin."

Applicant first submits that, as the Examiner correctly recognized, "Tepman does not disclose the lift base has a thread hole." Office Action, page 3. In other words, Tepman fails to teach or suggest at least "wherein . . . the lift base has a threaded hole for receiving the first end of the lift pin," as recited in claim 1.

However, the Examiner alleged that "Satoh discloses an example of plasma process [having] a lift base (9) with a thread hole (32)," and that "[i]t would have been obvious to one of ordinary skill in the art at the time the invention was made to have placed the lift base of Tepman with a lift base having a thread hole as taught by Satoh in order to improve productivity, and time required for maintenance can be shortened." Office Action, page 3. Applicant respectfully disagrees with the Examiner.

First, as discussed above, even assuming, which Applicant does not concede, that Satoh's pin 11 corresponds to Applicant's claimed "first pin," Satoh teaches that "[t]he pin holder 10 comprises a fine cavity 28 for receiving the pin 11," rather than "[a] lift base [having] a threaded hole for receiving the first end of the lift pin," as recited in claim 1. In other words, Satoh fails to overcome the deficiency of Tepman in regard to claim 1 of the present invention.

Second, as Applicant argued in the Response to Final Office Action filed on December 17, 2003, which the Examiner found persuasive (Office Action, page 4), Tepman clearly shows that each of pin 30 is coupled to the pin holder with one nut on each side of the pin holder. Therefore, it would be unnecessary, and indeed very inconvenient to have a threaded hole in the pin holder. In other words, Tepman teaches away from "wherein . . . the lift base has a threaded hole for receiving the first end of the lift pin," as recited in claim 1. Thus, Tepman clearly lacks "a reason, suggestion, or

motivation . . . that would lead one of ordinary skill in the art to combine the references, and that would also suggest a reasonable likelihood of success,” as required by *Smiths Industries, Medical Sys., Inc. v. Vital Signs, Inc.*, 183 F.3d 1347, 1356, 51 USPQ2d 1415, 1420 (Fed. Cir. 1999). At least on this basis, Applicant traverses the Examiner’s allegation that “[i]t would have been obvious to one of ordinary skill in the art at the time the invention was made to have placed the lift base of Tepman with a lift base having a thread hole as taught by Satoh in order to improve productivity, and time required for maintenance can be shortened.” Office Action, page 3.

In conclusion, Tepman and Satoh, taken alone or in combination, fail to teach or suggest each and every element of the present invention as claimed in claim 1. They actually teach away from the present invention. One skilled in the art therefore would not have been motivated to combine the references to result in the present claimed invention. In fact, even a proper combination of Tepman and Satoh would fail to teach or suggest at least “wherein . . . the lift base has a threaded hole for receiving the first end of the lift pin,” as recited in claim 1. Furthermore, there would be no reasonable expectation of success in doing so. Thus, claim 1 is patentable over Tepman and Satoh.

Claims 3-6, which depend from claim 1, are therefore also allowable at least because of their dependency from an allowable base claim.

Finally, Applicant respectfully traverses the rejection of claims 7 and 8 under 35 U.S.C. § 103(a) as being unpatentable over Tepman in view of Satoh, and further in view of Morita et al.

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First, as discussed above, Tepman and Satoh, taken alone or in combination, fail to teach or suggest each and every element of claim 1, from which claims 7 and 8 depend. They actually teach away from claim 1. Particularly, they fail to teach or suggest at least “wherein . . . the lift base has a threaded hole for receiving the first end of the lift pin,” as recited in claim 1.

Moreover, as discussed in the Response filed on December 17, 2003, Morita et al. does not teach or suggest at least “at least one pin removably coupled with the lift base, the lift pin having two ends with a first end removably coupled to the lift base . . . , wherein the first end of the lift pin is threaded and the lift base has a threaded hole for receiving the first end of the lift pin,” as recited in claim 1. Therefore, Morita et al. does not overcome the above-mentioned deficiencies of Tepman and Satoh. One skilled in the art would not have been motivated to combine the references, nor would there be any reasonable expectation of success in doing so, because, as discussed above, they actually teach away from the claimed invention. Thus, claim 1 is allowable over Tepman, Satoh, and Morita et al., and claims 7 and 8, which depend from claim 1, are also allowable at least because of their dependency from an allowable base claim.

In view of the foregoing, Applicant respectfully requests the reconsideration and reexamination of this application and the timely allowance of the pending claims 1, 3-9, and 17-19.

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Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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*With limited recognition under 37 C.F.R. § 10.9(b).

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